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Call for papers

# Low carbon economy and equitable society: production, supply chain, and operations management perspectives

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## 1. Introduction

A low carbon economy which seeks to reduce the energy consumption, pollution, and the emissions of greenhouse gases (GHG) to the atmosphere is an important strategy for mitigating climate change (Ali et al., 2013; The UK Department of Trade and Industry, 2003). The production of energy, products, and services with sustainable level of GHG emissions is the ultimate goal (Zhang et al., 2015). For the transition to a low-carbon economy, a recent report released by the World Bank estimates that over the next 15 years, the global economy will require $89 trillion in infrastructure investments across cities, energy, and land-use systems, and $4.1 trillion in incremental investment to hold the agreed limit of a 2-degree-Celsius temperature rise (The World Bank, 2015). At later stages of usage and end-of-life consumers, buildings, machines, and devices need to be involved in these efforts. Using energy and products efficiently along with managing the end-of-life of products and materials through remanufacture, recycling, or disposal should also have sustainable level of GHG outputs (The UK Department of Trade and Industry, 2003).

The transition to a low carbon society which means "a community that develops or adapts its behaviour and economy to be less dependent on carbon emitting activities" (Nakata et al., 2011) has several impacts on the population (Robertson, 2015; UNDP, 2010; Wang and Chang, 2014), such as the effects of material efficiency (recycling strategies, material efficient production processes, life time extension of products, among others), and employment and growth (Walz, 2011). The transition to a sustainable society requires pursuit of a proper balance of economic, environmental, ethical, and social objectives (Gonzalez et al., 2015). Academia and industry have initiated different strategies to support policy and decision makers to make the transition to a low carbon and more equitable society. This effort is still evolving and challenges remains. Theory and practice need to work together in an attempt to provide practical insights on this complex issue. Researchers and practitioners who function within production, supply chain, manufacturing, and service operations have novel opportunities for meeting broad goals for a sustainable society (Gonzalez et al., 2015).

The scope of this Special Volume is to publish leading-edge innovative research that addresses various aspects and roles of production, supply chain, and operations management on the transition to a low carbon economy while building social equity.

This Special Volume aims at compiling top quality papers from throughout the world on concepts and tools from the management sciences, operational research, social science, applied mathematics, economics, and statistics with the aim of providing tools to support policy and decision makers in solving real problems related to sustainability and low carbon issues. Other disciplines and multi-disciplinary approaches are welcomed, too.

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Authors are invited to access and build upon the insights and wisdom of authors who have published in the JCLP for the last 25 years in related content areas. Interested authors are encouraged to submit empirical, literature surveys, analytical model articles, and studies grounded in solid theoretical frameworks. Purely algorithmic, simulation, case studies, or mathematical modelling approaches are not encouraged, unless they demonstrate generic managerial insights of significant value to industry.

## 2. Topical areas

Some topical areas of interest may include, but not be limited to, the following:

- Integrating low carbon and equitable society principles in the strategic, tactical, and operational decisions of supply chain and operations management problems;
- Paths to have low carbon facility location, capacity planning and layouts decisions;
- Strategic, tactical and/or operational decisions for Global green operations and supply chain management;
- Role of simulation, soft-OR methods, quantitative approaches and decision support systems in this new setting;
- Remanufacturing management in the pursuit of low carbon and equitable society;
- Lean and agile operations for a low carbon economy;
- Sustainability in logistics, order fulfilment, distribution and transportation;
- Environmental and energy efficient machining;
- Environment friendly and energy efficient additive and digital manufacturing methods;
- Lean Value Chain/Supply Chain;
- Removing Waste from Non-manufacturing Processes and Service Industry;
- Mass customization for sustainability;
- Greening materials and inventory management;
- Low carbon based inventory and transportation integrated decisions;
- Sustainable operations and production planning, scheduling and control;
- Performance measurement for green production, supply chain and operations management for this new setting;
- Integrating descriptive tools such as LCA-based approaches with predictive and prescriptive tools to support management and decisions makers;
- Local and decentralized production for a low carbon economy;
- Social manufacturing and new corporate governance models for a low carbon and more equitable society; and
- Supplier/customer relationship management in the field of green production and supply chain operations.

We invite researchers and practitioners from a broad variety of disciplines to work together to solve these complex issues. Theories and practices from academics, integrated with the above topics, from social sciences, economics, operational research, operations management, applied mathematics and statistics are invited to contribute to this special issue.

## 3. Paper submission

This Special Volume is based, in part, upon invited papers presented at the Workshop on Theory and Applications of Operational Research for Sustainability (TAORS) and several special sessions that were developed as part of the Global Cleaner Production and Sustainable Consumption Conference conducted during November 1–4, 2015 in Sitges - Spain. It will be complemented with papers submitted to the Journal of Cleaner Production in response to this Call for Papers (CfPs).

All authors are invited to submit extended abstracts of 1000–1500 words of their proposed papers to Dr. Santibanez-Gonzalez (santibanez.ernesto@gmail.com) under the subject "JCLP: SV Low carbon and equitable society". The editorial team will review all submissions and will provide prompt feedback to the authors so that they are best guided for preparation of top-quality papers.

The invitation to submit extended abstracts pertain to people who submitted to either of the conferences and to anyone else who wishes to submit a paper for this exciting and urgently needed SV.

After the extended abstracts have been reviewed, all authors will be notified whether their abstracts have been accepted as submitted or amendments should be made as the authors develop their full, peer-review ready papers. Full papers are invited to be submitted for being considered for publication in this special volume. Papers should be between 10,000 and 12,000 words for comprehensive reviews, and between 7000 and 8500 words for theoretical papers with broad empirical studies. All papers should follow the editorial guidelines provided in the instructions for authors for the Journal of Cleaner Production, which can be accessed from the website:

http://www.elsevier.com/journals/journal-of-cleaner-production/0959-6526/guide-for-authors

Authors should submit their full peer-review ready manuscripts in MSWord to http://ees.elsevier.com/jclepro/

Authors must select "Special Volume: Low carbon economy and equitable society: production, supply chain and operations management perspectives" when selecting the article type.

By submitting a manuscript author(s) certify that the contribution is original and has not been published or is under consideration for publication elsewhere and that no part of the material breaches the right of others. All articles will be first evaluated by the Guest Editors in order to assure suitability with the scopes of both the Special Volume and the Journal. After this first screening, suitable papers will enter the peer review process according to the standards of the Journal of Cleaner Production.

## 4. Tentative schedule

Contributors with proposals for papers are encouraged to communicate with the co-editors by e-mail prior to submission. The following schedule will be applied:

- Submission of extended abstracts: Feb 20, 2016
- Feedback of extended abstracts by March 8, 2016
- Deadline to authors submit 'peer-review ready' documents to Elsevier via the EES system by June 8, 2016
- Peer review/paper revision process and feedback: June/2016–Dec/2016
- Final decision by Dec 7, 2016
- Online Publication of Special Volume by March 6, 2017

## 5. Editors and contact information

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## References

Ali, G., Abbas, S., Mueen Qamer, F., 2013. How effectively low carbon society development models contribute to climate change mitigation and adaptation action plans in Asia. Renew. Sustain. Energy Rev. 26, 632–638.

Gonzalez, E.D.R.S., Sarkis, J., Huisingh, D., Huatuco, L.H., Maculan, N., Montoya-Torres, J.R., de Almeida, C.M.V.B., 2015. Making real progress toward more sustainable societies using decision support models and tools: introduction to the special volume. J. Clean. Prod. 105, 1–13. http://doi.org/10.1016/j.jclepro.2015.05.047.

Nakata, T., Silva, D., Rodionov, M., 2011. Application of energy system models for designing a low-carbon society. Prog. Energy Combust. Sci. 37 (4), 462–502. http://doi.org/10.1016/j.pecs.2010.08.001.

Robertson, S., 2015. A longitudinal quantitative–qualitative systems approach to the study of transitions toward a low carbon society. J. Clean. Prod. 1–13. http://doi.org/10.1016/j.jclepro.2015.04.074.

The UK Department of Trade and Industry, 2003. Our Energy Future - Creating a Low Carbon Economy (London).

The World Bank, 2015. Mobilizing the Billions and Trillions for Climate Finance. Retrieved from. http://www.worldbank.org/en/news/feature/2015/04/18/raising-trillions-for-climate-finance.

UNDP, 2010. China human Development Report 2009/10: China and a Sustainable Future: towards a Low Carbon Economy and Society (Beijing).

Walz, R., 2011. Employment and structural impacts of material efficiency strategies: results from five case studies. J. Clean. Prod. 19 (8), 805–815. http://doi.org/10.1016/j.jclepro.2010.06.023.

Wang, N., Chang, Y.-C., 2014. The evolution of low-carbon development strategies in China. Energy 68, 61–70.

Zhang, J., Zeng, W., Wang, J., Yang, F., Jiang, H., 2015. Regional low-carbon economy efficiency in China: analysis based on the Super-SBM model with $CO_2$ emissions. J. Clean. Prod. http://doi.org/10.1016/j.jclepro.2015.06.111.